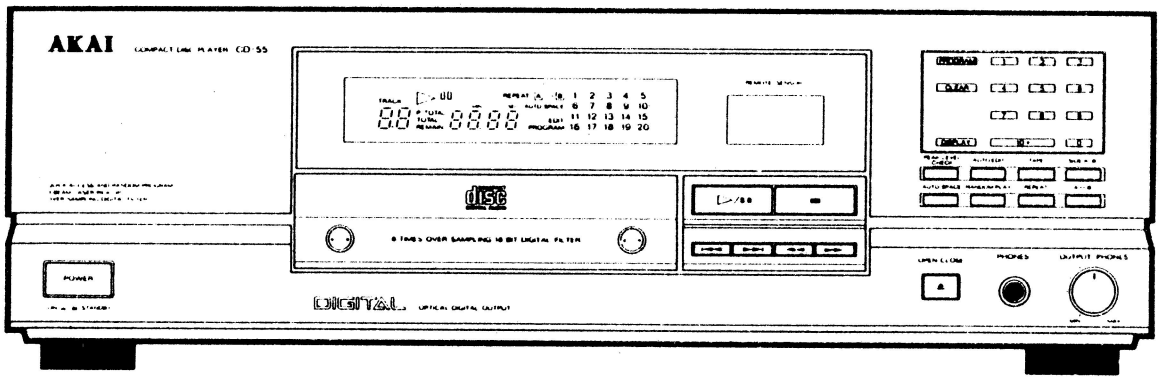
AKAI SERVICE MANUAL



COMPACT disc DIGITAL AUDIO

COMPACT DISC PLAYER

MODEL CD-55

SPECIFICATIONS

Pick-up system	3 beam laser pick-up
Sampling frequency	44.1kHz
Digital filter	18 bit,8 times over sampling
D/A converter	16 bit linear
Error correction system	Cross Interleave Reed Solomon
Number of channels	2 channels stereo
Frequency response	4Hz to 20kHz ± 0.5dB
Dynamic range	96dB
S/N ratio	108dB
Total harmonic distortion	0.0028%
Wow & flutter	Less than measurable limits
Output level	
Analog output (line)	2V(0dB)
Digital output (coaxial)	0.5V p-p/750ohms
(optical)	−22dBm, wave length 660nm
Headphone output	70mW/32ohms
Power requirements	220V, 50Hz for Europe except UK 240V,50Hz for UK and Australia 110V-120V/220V-240V,50Hz/60Hz convertible for other countries
Dimensions	425(W) × 141(H) × 343(D)mm (16.7 × 5.6 × 13.5 inches)
Weight	4.2kg (7.9 lbs)

Standard accessories

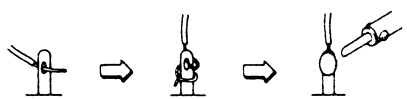
Connection cord	×1
Remote control unit	×1
Batteries for the remote control unit	×2
Operator's manual	×1

*** For improvement purposes, specifications and design are subject to change without notice.**

★SAFETY INSTRUCTIONS

PRECAUTIONS DURING SERVICING

1. Parts identified by the ⚠ (*) symbol are critical for safety. Replace only with parts number specified.
2. In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation.
   These must also be replaced only with specified replacements.
   Examples: RF converters, tuner units, antenna selector switches, RF cables, noise blocking capacitors, noise blocking filters, etc.
3. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads
4. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers (Insulating Barriers)
   4) Insulation sheets for transistors
   5) Plastic screws for fixing microswitch (especially in turntable)
5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap ends of wires securely about the terminals before soldering.



6. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.).
7. Check that replaced wires do not contact sharp edged or pointed parts.
8. Also check areas surrounding repaired locations.
9. Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

SAFETY CHECK AFTER SERVICING

After servicing, make measurements of leakage-current or resistance in order to determine that exposed parts are acceptably insulated from the supply circuit.
The leakage-current measurement should be done between accessible metal parts (such as chassis, ground terminal, microphone jacks, signal-input/output connectors, etc.) and the earth ground through a resister of 1500 ohms paralleled with a 0.15 µF capacitor, under the unit's normal working conditions. The leakage-current should be less than 0.5 mA rms AC.
The resistance measurement should be done between accessible exposed metal parts and power cord plug prongs with the power switch (if included) "ON". The resistance should be more than 2.2 Mohms.

★INFORMATION

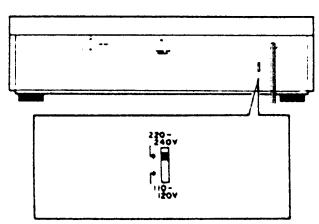
SYMBOLS FOR PRIMARY DESTINATION

Alphabet indicates the destination of the units as listed below.

Symbols	Principal Destinations
A	USA
B	UK
C	Canada
E	Europe (except UK)
J	Japan
S	Australia
V	W. Germany only
U	Universal Area
Y*	Custom version

VOLTAGE CONVERSION (U Model only)

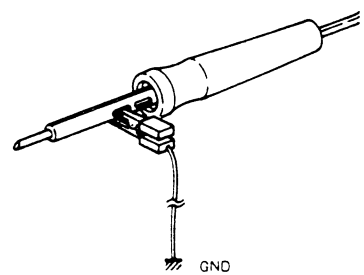
Before connecting the power cord. Set the VOLTAGE SELECTOR located on the rear panel with a screwdriver so that the correct voltage is indicated.



PRECAUTIONS IN REPAIRING

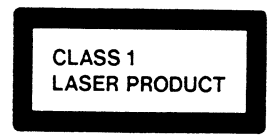
When repairing or adjusting the unit, pleae note the following points.

1. Do not put excessive pressure on the mechanical part (operation part), including the pick-up block, as extremely high mechanical precision is required in these parts.
2. When the base is removed for repair or adjustment, make sure that there are no metal objects in the narrow gap between the P.C. board or the mecha parts and the base.
3. The Micro-Computer and the CD signal processing ICs can be damaged by static electricity or leakage from a soldering iron during repairing.
   While soldering, please take the precautions against leakage as in the illustration.

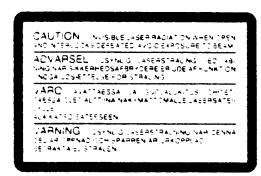


4. Do not loosen any screws in the pick-up block.
   When handing the pick-up block, please refer to the points to NOTE when replacing the pick-up block.
5. Keep safety for hazardous invisible Laser Radiation. DO NOT watch the Laser Beam (Objective lens) directly.
6. Models for the some countries, laser warning labels are affixed on the unit and inside of the unit, as shown below.
   Read it carefully for your safety, when repairing or adjusting the unit.

[DENMARK, UK, USA]



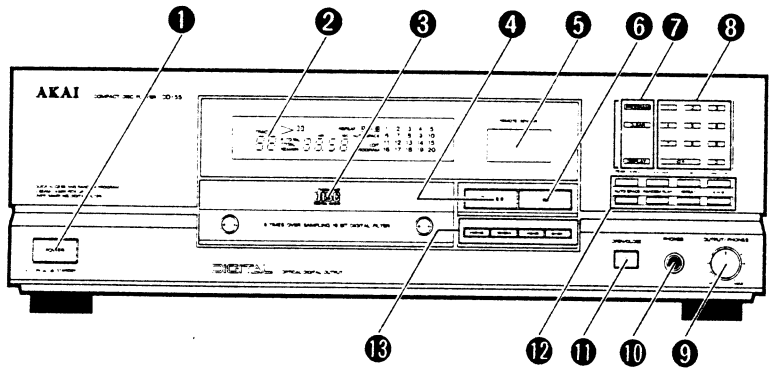
A Label affixed on the unit



A Label affixed inside of the unit

I. CONTROLS

1-1. FRONT PANEL



❶ POWER Button (ON ⏏/STANDBY ⏏)
To turn the power on and off.
Attention
The POWER button is not a primary power switch. Even when the POWER button is set to STANDBY ⏏, the power supply to this CD player is not completely turned off. If you wish to completely turn the power off, disconnect the power cord from the household AC outlet.

❷ FL (Fluorescent) Display
Tells you what the CD player is doing.

❸ Disc Drawer
Load a compact disc here.

❹ ▷/II PLAY/PAUSE Button
To start and stop playback temporarily.

❺ REMOTE SENSOR Window
For reception of the remote control signal from the provided remote control unit RC-C55.
Keep away from strong light and direct sunlight as this will interfere with the remote control function.

❻ ■ Button
To stop playback.

❼ PROGRAM Button
To set the CD player to the random program mode.

CLEAR Button
To cancel all programmed tracks of the random program or the automatic edited program.

DISPLAY button
To display the total elapsed playback time or total remaining playback time on the digital display.

❽ Numeric Buttons (1 to 0, +10)
For direct search of the track you wish to play back and for programming for random program playback.

❾ OUTPUT/PHONES Level Control
To adjust the PHONES jack output and VARIABLE OUTPUT jacks levels.

❿ PHONES Jack
For headphone listening.

⓫ ⏏ OPEN/CLOSE Button
To open and close the disc drawer.

⓬ PEAK LEVEL CHECK Button
To search for the highest recorded level on the loaded CD.

AUTO EDIT Button
To set the CD player to the automatic edit program playback mode.

TAPE Button
To select the length of the cassette tapes for automatic edit program operation.

SIDE A/B Select Button
To select the programmed tracks after setting the automatic edit program mode.

A ⟶ B Repeat Button
For repeat playback of a specific section of the CD.

REPEAT Button
For repeat playback of all tracks, random program playback or random playback.

RANDOM PLAY Button
To start random playback.

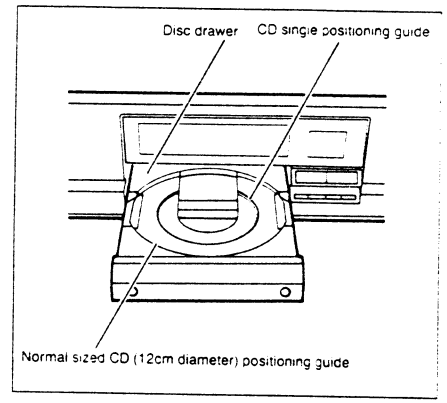
AUTO SPACE Button
To set the blank intervals between tracks to a specific time (approximately 4 seconds) for uniformity during random program playback.

⓭ ◀◀/▶▶ and ⏮/⏭ Buttons

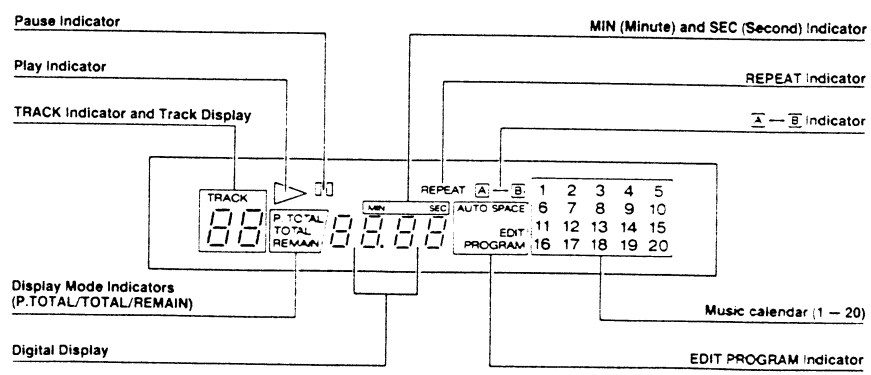
◀◀/▶▶ Buttons
For manual search during playback.
⏮/⏭ Buttons
To skip tracks during playback.

On the disc drawer

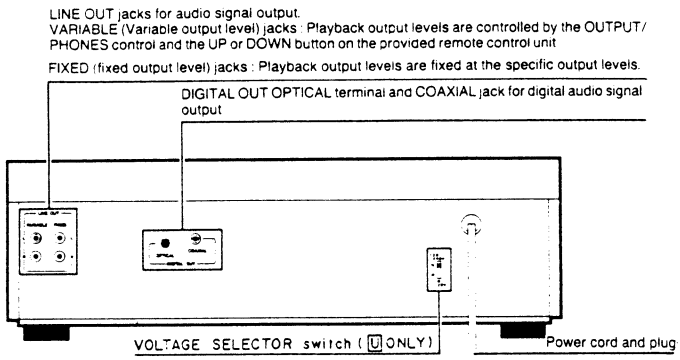
The disc drawer of this CD player is capable of holding a CD single (8cm diameter CD) for playback.
Place the CD single on the center of the disc drawer as shown in the following illustration.



1-2. FL DISPLAY

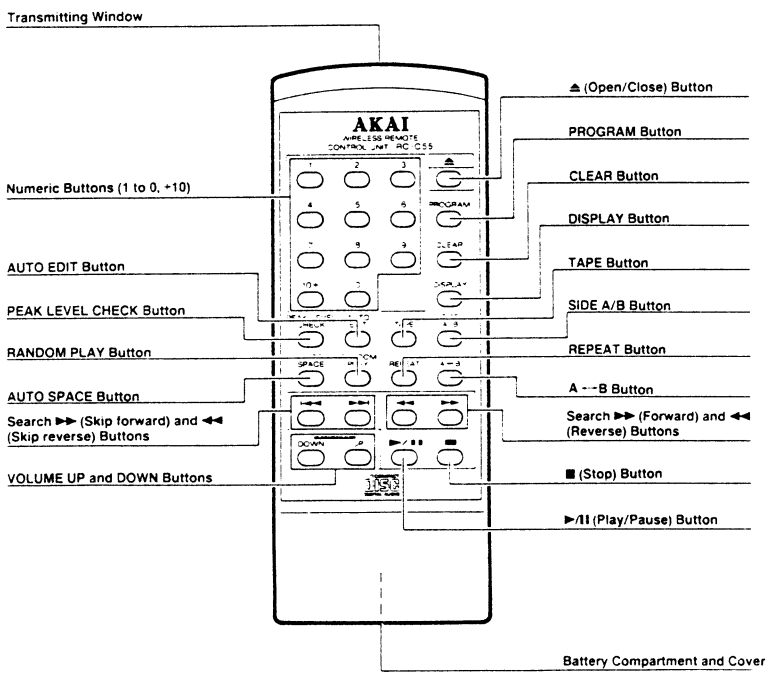


1-3. REAR PANEL


LINE OUT jacks for audio signal output.
VARIABLE (Variable output level) jacks : Playback output levels are controlled by the OUTPUT/PHONES control and the UP or DOWN button on the provided remote control unit
FIXED (fixed output level) jacks : Playback output levels are fixed at the specific output levels.
DIGITAL OUT OPTICAL terminal and COAXIAL jack for digital audio signal output
VOLTAGE SELECTOR switch (U ONLY)
Power cord and plug

1-4. REMOTE CONTROL (RC-55)

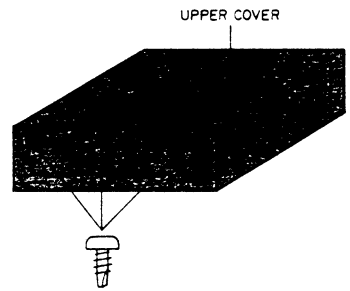
The operation buttons on the remote control unit are the same as those on the CD player and can be used to conveniently control all the CD player's functions except power on/off.



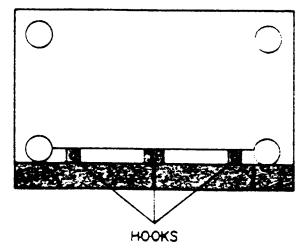
II. DISASSEMBLY

In case of trouble, etc, necessitating dismantling, please dismantle in the order shown in the illustrations. Reassemble in reverse order.

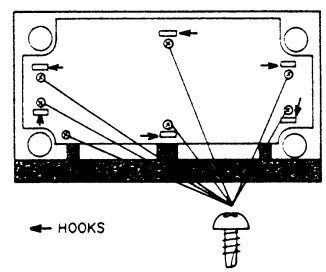
1. Removal of UPPER COVER



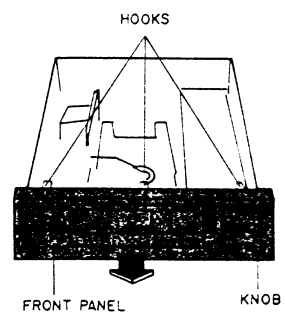
3. Removal of FRONT PANEL



2. Removal of BOTTOM PLATE



4.



III. PRINCIPAL PARTS LOCATION

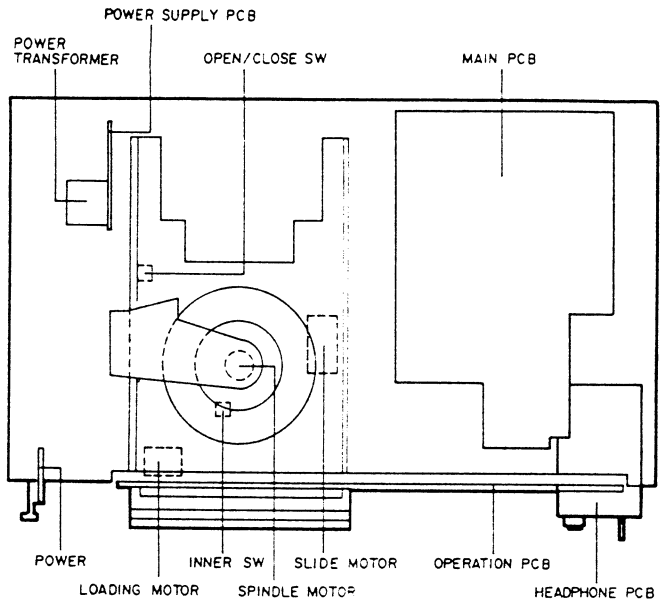


Fig. 3-1

IV. REPLACEMENT OF PRINCIPAL COMPONENT

- Refer to "II. DISASSEMBLY" for removal of UPPER COVER,BOTTOM PLATE and FRONT PANEL.

4-1. DISASSEBLE/REASSEMBLE PROCEDURE OF COMPONENT

- When replacement of mechanical part is neccessary, replace the part as following procedure.

STEP 1	STEP 2	STEP 3

DISC CLAMPER → LOADING MECHA BLK → LOADING MOTOR

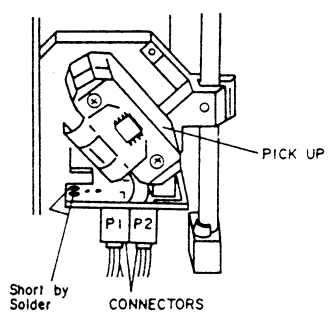
DISC DRAWER → PICK UP MECHA BLK → PICK UP BLK

PICK UP MECHA BLK → SPINDLE MOTOR

PICK UP MECHA BLK → SLED MOTOR

4-2. PRECAUTION, WHEN REPLACING THE PICK UP BLOCK

When connecting or disconnecting the connectors P1 and P2 on the MAIN PCB or PCB on the PICK UP BLK, the circuit of the PCB on the PICK UP BLK has to be shorted by solder as shown Fig.4-1.
After connecting the connectors P1 and P2, remove the solder from the circuit.



* View from bottom side.

Fig.4-1

4-3. REMOVAL OF DISC CLAMPER

NOTE: Keep your safety from hazardous invisible laser radiation. Make sure that the POWER switch is "OFF", when removing the DISC CLAMPER.

1) Remove DISC CLAMPER while releasing the HOOKs as shown Fig.4-2.
2) When reassembling the DISC CLAMPER, set the PIN Ⓐ of the DISC CLAMPER into the HOLE Ⓑ on the LOADING MOTOR BLK.

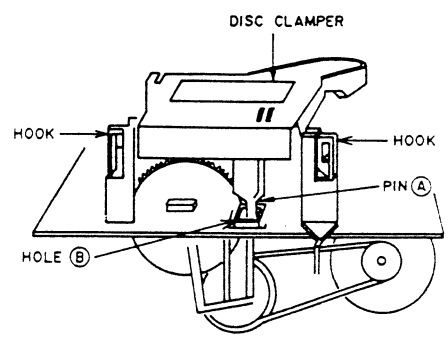


Fig. 4-2

4-4. REMOVAL OF DISC DRAWER

1) Push the end of rail on the DISC DRAWER and set the DISC DRAWER to open position.
2) Turn the LEVER Ⓒ while releasing the STOPPER Ⓓ as shown Fig.4-4, and pull out the DISC DRAWER.
3) Reassemble in reverse order.

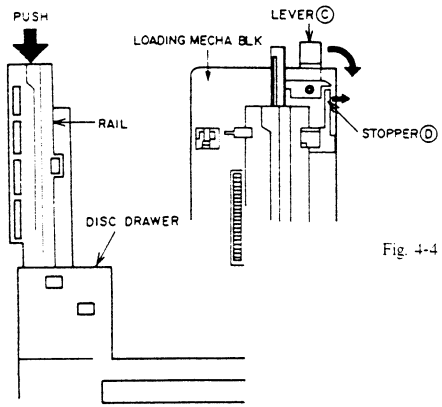


Fig. 4-4

Fig. 4-3

4-5. REMOVAL OF LOADING MECHA BLOCK

1) Turn the LEVERS Ⓒ while releasing the STOPPERS Ⓓ as shown Fig.4-5.
2) Pull out the LOADING MECHA BLK.
3) Reassemble in reverse order.

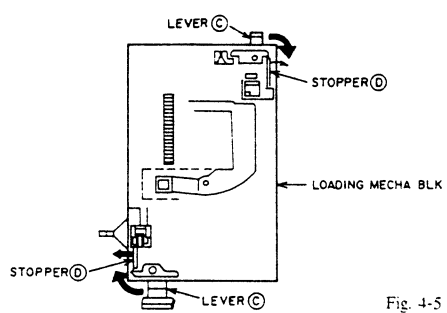


Fig. 4-5

4-6. REMOVAL OF PICK UP MECHA BLK

1) Turn the LEVERS Ⓔ while releasing the STOPERS Ⓕ as shown Fig.4-6.
2) Pull out the PICK UP MECHA BLK.
3) Reassemble in reverse order.

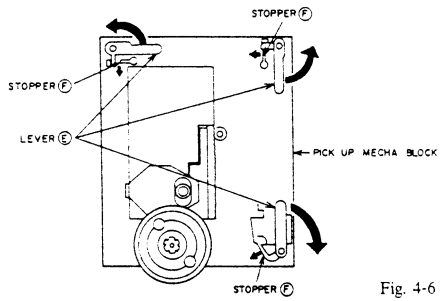


Fig. 4-6

4-7. REMOVAL OF LOADING MOTOR

1) Remove the LOADING BELT from MOTOR PULLY.
2) Remove two SCREWS Ⓖ and remove LOADING MOTOR.
3) Reassemble in reverse order.

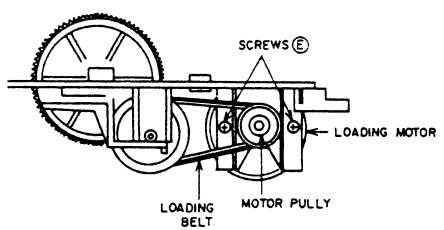


Fig. 4-7

4-8. REMOVAL OF PICK UP BLOCK

1) Push PICK UP SLED SHAFT while releasing the STOPPER Ⓗ as shown Fig.4-8 and pull out the PICK UP SLED SHAFT, then remove PICK UP BLK.
2) Reassemble in reverse order.

4-9. REMOVAL OF SLED MOTOR

1) Turn the SLED MOTOR HOLD LEVER while releasing the STOPPER Ⓘ (Refer to Fig.4-8) and remove SLED MOTOR.
2) Reassemble in reverse order.

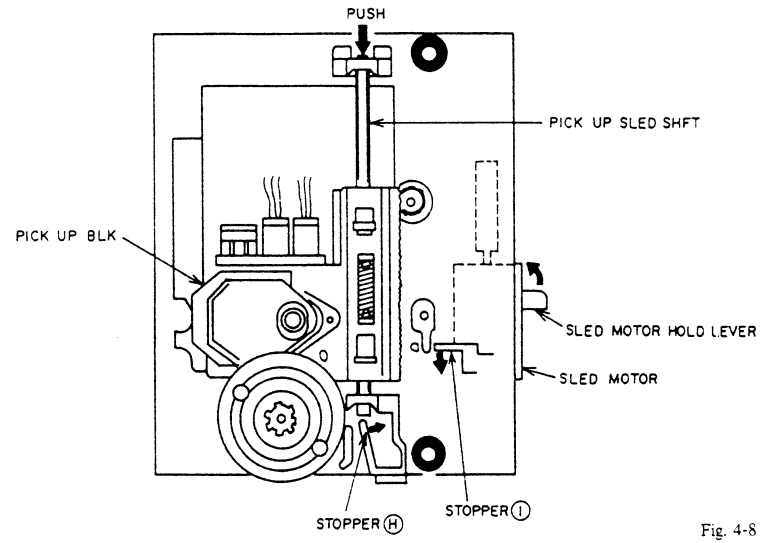


Fig. 4-8

4-10. REMOVAL OF SPINDLE MOTOR

1) Remove two fixation SCREWS Ⓙ of the SPINDLE MOTOR through the hole on the TURN TABLE as shown Fig.4-9.
2) Reassemble in reverse order.

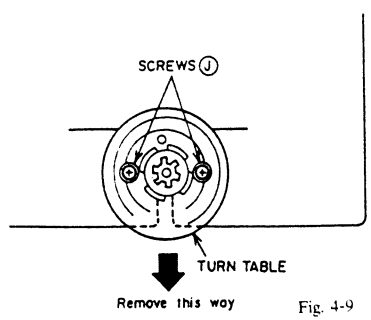


Fig. 4-9

V. ELECTRICAL ADJUSTMENT

[About the TEST mode]

- This TEST mode use for the adjustment or check.
- How to set into the TEST mode.
  Turn the power on, while pressing the [ ] , [ ] and [CLEAR] buttons on the front panel.
- How to change the TEST mode number.
  Press the [⏏] button, then advance a TEST mode number, when TEST mode number is returned to intial TEST mode number, press [ ] button.

STEP	ADJUSTMENT ITEM
1.	TEST DISC
2.	MODE or TEST mode
3.	TEST POINT and ADJ. part
4.	RESULT & REMARKS

Test Point — ADJ Part

TEST mode condition and DISPLAY

TRACK MIN SEC 1	• Indicated that unit is set into the TEST mode.
TRACK MIN SEC 12	• Indicated that the end of FOCUS SEARCH.
TRACK MIN SEC 123	• Set into the CLV-S mode. Tracking servo gain is set to the same as "JUMP" mode.
TRACK MIN SEC 1234	• Tracking servo is on.
TRACK MIN SEC 12345	• Unit into the normal play mode except anti shock is "OFF". • After this, track NO. and time count become normal indication.
TRACK MIN SEC 12345 6	• Anti shock is "ON" and unit is into nomal condition. • If press the [⏏] button again, unit will enter the normal "power ON" mode.

4 FOCUS OFF-SET

1. Test disc 5A(AT-751330)
2. Test mode 2 and 1
3. TP(FE), VR2
4. • Connect a digital DC voltmeter to TP(FE) and check voltage A in the test mode 2, then press STOP button and adjust VR2 so that the reading voltage B on the digital DC voltmeter is same as voltage A.

2 E-F BALANCE

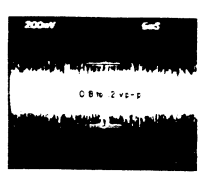
1. Test disc 5A(AT-751330)
2. Test mode 3
3. TP(TE), VR1
4. • Connect an oscilloscope to TP(TE)
   * A=B

1 VCO

1. —
2. 10 seconds after power is on.
3. TP(WFCK), VR5
4. • Connect a frequency counter to TP(WFCK).
   • Connect TP (EFM) to GND by jumper wire.
   * 7350 ± 10Hz

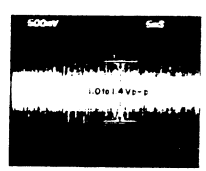
5 TRACKING SERVO GAIN

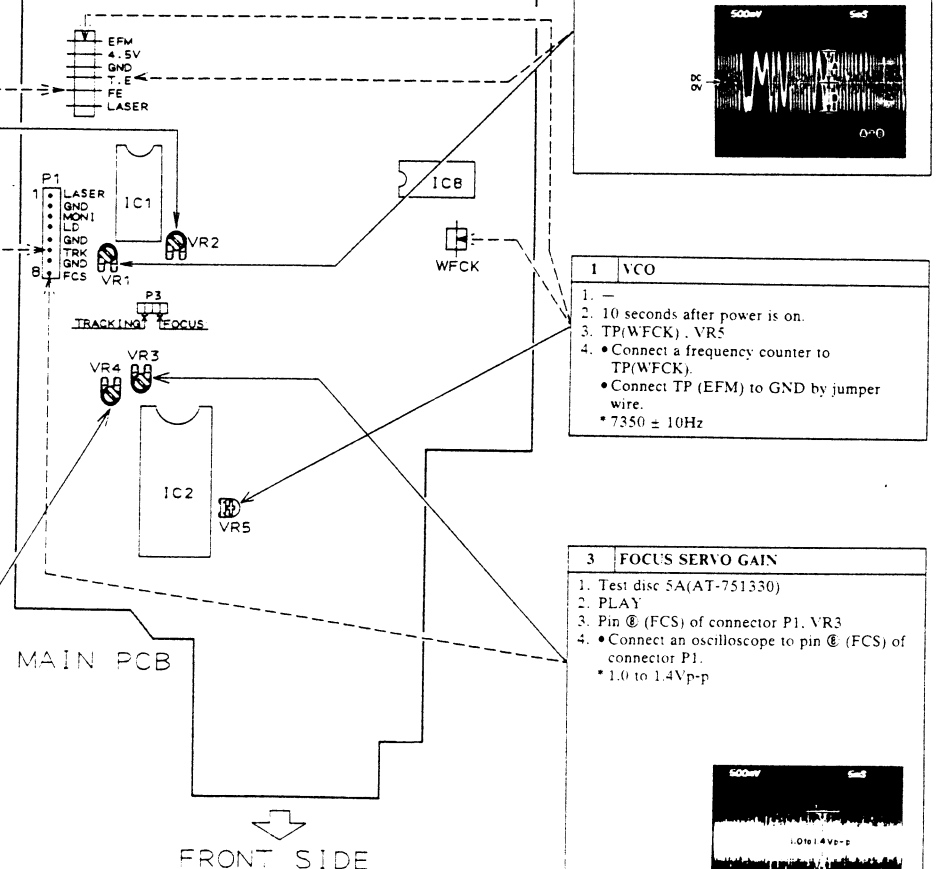
1. Test disc 5A(AT-751330)
2. PLAY
3. Pin Ⓔ of connector P1, VR4
4. • Connect an oscilloscope to pin 6 (TRK) of connector P1.
   * 0.8 to 1.2Vp-p.



3 FOCUS SERVO GAIN

1. Test disc 5A(AT-751330)
2. PLAY
3. Pin Ⓕ (FCS) of connector P1, VR3
4. • Connect an oscilloscope to pin Ⓕ (FCS) of connector P1.
   * 1.0 to 1.4Vp-p





ATTENTION

1. When placing an order for parts, be sure to list Part No., Model No. and the description of eachpart. Otherwise, the non-delivery of the part or the delivery of a wrong part may result.
2. Please make sure that Part No. is correct when ordering. If not, a part different from the one you ordered may be delivered.
3. Since the parts shown in Parts List of Preliminary Service Manual may have been the subject of changes, please use this Parts List for all future reference.

HOW TO USE THIS PARTS LIST

1. This Parts List lists those parts which are considered necessary for repairs. Other common parts, such as resistors and capacitors, are listed in the "Common List for Service Parts" from which these parts should be selected and stocked.
2. The Recommended Spare Parts List shows those parts in the Parts List which are considered particularly important for service.
3. Parts not shown in the Parts List and "Common List for Service Parts" will not in principle be supplied.
4. How to read the Parts List.

a) Mechanism Block

2. HEAD BASE BLOCK

REF. NO.	PART NO.	DESCRIPTION
1	BH-T2023A320A	HEAD BASE BLOCK
2	HP-H2206A010A	HEAD R P PR4-8FU C
3	ZS-477876	PAN20×03STL CMT
4	ZS-536488	BID20×08STL CMT
5	ZG-402895	SP CS ANGLE ADJUST
↑		

SP (Service Parts) Classification

This number corresponds with the individual parts index number in that figure.

b) PC Board

6. MAIN PC BOARD

REF. NO.	PART NO.	DESCRIPTION
IC1	EI-324536	IC HD14049BP
IC2	EI-336801	IC MB8841-564M
C1A	EC-338399	C MMY V 223M 250AC [U,E,B,S
C1B	EC-350949	C MMY V 223M 250DC [J]
C1C	EC-338397	C MMY V 223M 125AC [C,A]
X1	EI-318384	OSC X'TAL NC-18C

Symbols for primary destination –

[A] : AAL (U.S.A)	[S] : SAA (Australia
[B] : BEAB (England)	[U] : U T (Universa
[C] : CSA (Canada)	Area)
[E] : CEE (Europe)	[V] : VDE (W. Germany)
[J] : JPN (Janan)	[Y] : Custom Version

SP (Service Parts) Classification

These reference symbols correspond with component symbols in the Schematic Diagrams.

The available PC Board Blocks are listed separately.

5. When Part No. is known. Parts Index at end of Parts List can be used to locate where that part is shown in Parts List by its Reference No.listed at right of Part No.

WARNING

⚠(*) INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURE'S RECOMMENDED PARTS.

AVERTISSEMENT

⚠(*) IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉDE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LÉ FABRICANT.

1. RECOMMENDED SPARE PARTS

We suggest you to stock the following Recommended Spare Part items listed below since they can cover most of the routine service.

Ref. No.	Part No.	Description
1	BM-730687T	MOTOR RD-050Y-10240
2	BM-730688T	MOTOR RF-310T-11400
3	BM-730695T	MOTOR RF-500TB-12560
4	*BC-368598	PICK UP KSS-150A
5	*BT-730710T	TRANS POW EI-48K (B,S) [B,S]
6	*BT-730709T	TRANS POW EI-48K (E,V) [E,V]
7	*BT-730718T	TRANS POW EI-48K (U) [U]
8	ED-307572	D SILICON H 1SS131
9	*ED-389840J	D SILICON 1SR139-100HS F10
10	ED-346627	D ZENER H HZ33 2
11	ED-708301	D ZENER H RD2.4E B
12	ED-324458	D ZENER H RD5.1E B
13	ED-200967	D ZENER H RD5.6E B2
14	ED-305442	D ZENER H RD6.8E B
15	ED-381879J	DETECTOR AIQH3011HO
16	*EF-358641	FUSE BET T 250V 800MA [E,V,B,S]
17	EI-391092J	IC AD1856N
18	EI-377857	IC BA6247N
19	EI-390112J	IC CXA1081S
20	EI-390120J	IC CXA1082BS
21	EI-388090J	IC CXD1125Q
22	EI-382251J	IC LC3517BS-15
23	EI-390122J	IC M50957-188SP P2057-1
24	EI-307644	IC NJM4556D
25	EI-723861J	IC NJM4558DD
26	EI-392838J	IC PD0050
27	EI-360039J1	IC TC74HC08AP
28	EI-371572	IC UPC7805H
29	EI-390149J	OSC CE CST4.23MGW 4.230MHZ
30	EI-374176	OSC X'TAL AT-51 16.9344MHZ
31	EM-388559J	IND FL FV338G CHARACTER
32	ES-730694T	SW LEAF LSC-1223-31
33	ES-390127J	SW PUSH SPPB12
34	ES-390128J	SW PUSH SPUP12018A 02-02N
35	*ES-349464	SW SLIDE 00120319 01-2 [U]
36	ES-349474	SW TACT SKHHAM004A [SERCH FWD]
37	ET-356336	TR DTA114ES
38	ET-388853J	TR 2SA1209 S
39	ET-352726	TR 2SA1392 T,U
40	ET-356817	TR 2SB891 Q,R
41	ET-730702T	TR 2SB909MR
42	ET-338410	TR 2SC2878 A,B
43	ET-378524J	TR 2SC3383 S,T,U
44	ET-398788	TR 2SC945L R
45	ET-354083	TR 2SD1189 Q,R
46	ET-730698T	TR 2SD1225MR
47	EV-731180T	VR 20KAX2 RK16Y12MR005-CP
48	MB-730693T	BELT

2. CD MECHANISM

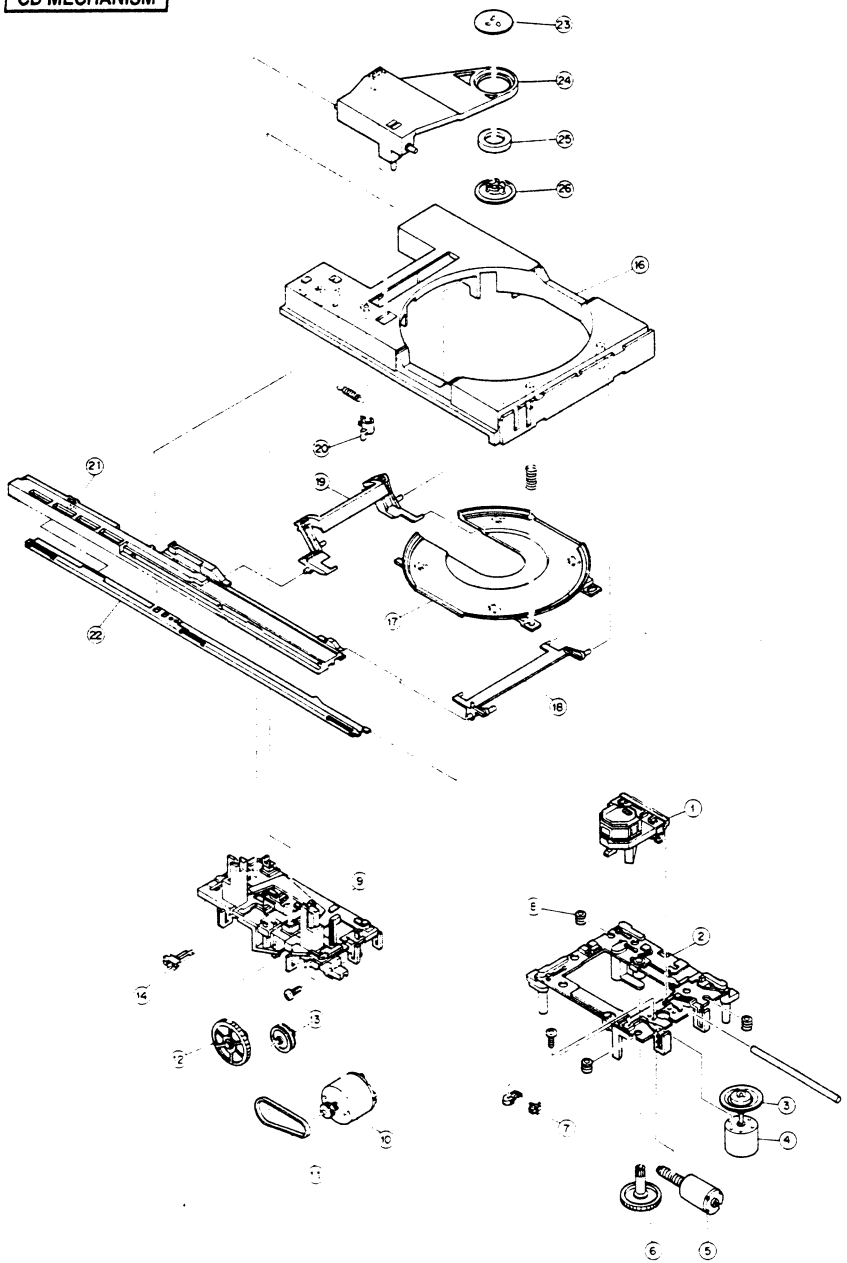
Ref. No.	Part No.	Description
1	*BC-368598	PICK UP KSS-150A
2	MA-731007T	CHASSIS OUTSERT
3	MZ-730685T	TURNTABLE OUTSERT
4	BM-730688T	MOTOR RF-310T-11400
5	BM-730687T	MOTOR RD-050Y-10240
6	MZ-731011T	GEAR WHEEL
7	ES-390127J	SW PUSH SPPB12
8	MB-730686T	RUBBER CUSHION
9	MA-731008T	LOADING CHASSIS OUTSERT
10	BM-730695T	MOTOR RF-500TB-12560
11	MB-730693T	BELT
12	MZ-730691T	GEAR LOADING
13	MZ-730692T	GEAR LOADING PULLEY
14	ES-730694T	SW LEAF LSC-1223-31
16	SC-731017T	DISC TRAY
17	MZ-731016T	DISC HOLDER
18	ML-730678T	DISC HOLDER (F)
19	ML-730679T	DISC HOLDER (R)
20	ML-730680T	LOCK LEVER
21	MZ-731019T	CAM LOADER
22	MZ-731018T	DISC TRAY GUIDE
23	MZ-731012T	CHUCKING PLATE
24	MZ-731015T	CLAMPER HOLDER
25	MZ-731014T	MAGNET 30X18X5
26	MZ-731013T	CLAMPING PLATE

NOTE:
Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

3. P.C BOARD BLOCK

Ref. No.	Part No.	Description
1	BA-731183T	PC MAIN BLK CD-55
2	BA-731184T	PC CONTROL BLK CD-55

CD MECHANISM



4. MAIN P.C BOARD

Ref. No.	Part No.	Description
D1	*ED-389640J	D SILICON 1SR139-100HS F10
D2	*ED-389640J	D SILICON 1SR139-100HS F10
D3	*ED-389640J	D SILICON 1SR139-100HS F10
D4	*ED-389640J	D SILICON 1SR139-100HS F10
D5	*ED-389640J	D SILICON 1SR139-100HS F10
D6	*ED-389640J	D SILICON 1SR139-100HS F10
D7	ED-389640J	D SILICON 1SR139-100HS F10
D8	ED-389640J	D SILICON 1SR139-100HS F10
D9	ED-389640J	D SILICON 1SR139-100HS F10
D10	ED-389640J	D SILICON 1SR139-100HS F10
D11	ED-346627	D ZENER H HZ33 2
D12	ED-324458	D ZENER H RD5.1E B
D14	ED-305442	D ZENER H RD6.8E B
D15	ED-307572	D SILICON H 1SS131
D17	ED-307572	D SILICON H 1SS131
D18	ED-307572	D SILICON H 1SS131
D19	ED-307572	D SILICON H 1SS131
D20	ED-307572	D SILICON H 1SS131
D21	ED-307572	D SILICON H 1SS131
D24	ED-307572	D SILICON H 1SS131
D25	ED-307572	D SILICON H 1SS131
D26	ED-324458	D ZENER H RD5.1E B
D28	ED-389640J	D SILICON 1SR139-100HS F10
D30	ED-324458	D ZENER H RD5.1E B
D31	ED-708301	D ZENER H RD2.4E B
D32	ED-200967	D ZENER H RD5.6E B2
D33	ED-324458	D ZENER H RD5.1E B
D34	ED-200967	D ZENER H RD5.6E B2
D35	ED-307572	D SILICON H 1SS131
IC1	EI-390112J	IC CXA1081S
IC2	EI-390120J	IC CXA1082BS
IC3	EI-388090J	IC CXD1125Q
IC4	EI-382251J	IC LC3517BS-15
IC5	EI-390122J	IC M50957-188SP P2057-1
IC6	EI-360039J1	IC TC74HC08AP
IC7	EI-377857	IC BA6247N
IC8	EI-392836J	IC PD0050
IC9	EI-391092J	IC AD1856N
IC10	EI-723861J	IC NJM4558DD
IC11	EI-723861J	IC NJM4558DD
IC12	EI-371572	IC UPC7805H
J3	EJ-390116J	PIN J T6312-AAAA 1P
J4	EJ-731182T	PIN J 4P RCA AJC-035-ACB
OP1	EJ-374191	SOCKET OPTICAL T0TX172
T1	BT-368261	TRANS PULSE TC-1027-04
TR1	ET-336735	TR 2SA733A P,K
TR4	ET-398788	TR 2SC945L R
TR5	ET-336735	TR 2SA733A P,K
TR6	ET-336735	TR 2SA733A P,K
TR7	ET-354083	TR 2SD1189 Q,R
TR8	ET-356817	TR 2SB891 Q,R
TR9	ET-354083	TR 2SD1189 Q,R
TR10	ET-730702T	TR 2SB909MR
TR11	ET-354083	TR 2SD1189 Q,R
TR12	ET-356817	TR 2SB891 Q,R
TR13	ET-730698T	TR 2SD1225MR
TR14	ET-730702T	TR 2SB909MR
TR15	ET-398788	TR 2SC945L R
TR17	ET-336735	TR 2SA733A P,K
TR18	ET-396788	TR 2SC945L R
TR19	ET-336735	TR 2SA733A P,K
TR20	ET-396788	TR 2SC945L R
TR21	ET-398788	TR 2SC945L R
TR22	ET-378524J	TR 2SC3383 S,T,U
TR23	ET-352726	TR 2SA1392 T,U
TR24	ET-398788	TR 2SC945L R
TR25	ET-398788	TR 2SC945L R
TR26	ET-388853J	TR 2SA1209 S
TR27	ET-356817	TR 2SB891 Q,R
TR28	ET-336735	TR 2SA733A P,K
TR29	ET-356336	TR DTA114ES
TR30	ET-356336	TR DTA114ES
TR31	ET-336735	TR 2SA733A P,K
TR32	ET-356336	TR DTA114ES
VR1	EV-336849	R S-FIX H KVSF807U 0.10W 203 [E-F BALANCE]
VR2	EV-336849	R S-FIX H KVSF807U 0.10W 203 [FOCUS OFF SET]
VR3	EV-336849	R S-FIX H KVSF807U 0.10W 203 [FOCUS GAIN]
VR4	EV-336849	R S-FIX H KVSF807U 0.10W 203 [TRACKING GAIN]
VR5	EV-341232	R S-FIX H TM8KV2-1S 0.50W102 [PLL]
X1	EI-374176	OSC X'TAL AT-51 16.9344MHZ
X2	EI-390149J	OSC CE CST4.23MGW 4.230MHZ

5. POWER P.C BOARD

Ref. No.	Part No.	Description
C201A	*EC-338496	C CE V DE7 FZ 472P 400AC [E,V,B,S]
C201B	*EC-338411	C CE V DE7 FZ 103P 400AC [U]
C202A	*EC-338496	C CE V DE7 FZ 472P 400AC [E,V,B,S]
C202B	*EC-338411	C CE V DE7 FZ 103P 400AC [U]
F101	*EF-358641	FUSE BET T 250V 800MA [E,V,B,S]
F102	*EF-358641	FUSE BET T 250V 800MA [E,V,B,S,U]
LF201	*EH-730701T	LINE FILTER LF-2217 [E,V]
VS201	*ES-349464	SW SLIDE 00120319 01-2 [U]

6. CONTROL P.C BOARD

Ref. No.	Part No.	Description
D301	ED-307572	D SILICON H 1SS131
D302	ED-307572	D SILICON H 1SS131
D303	ED-307572	D SILICON H 1SS131
D304	ED-307572	D SILICON H 1SS131
D305	ED-307572	D SILICON H 1SS131
D306	ED-307572	D SILICON H 1SS131
D307	ED-307572	D SILICON H 1SS131
D308	ED-307572	D SILICON H 1SS131
FN301	EM-388559J	IND FL FV338G CHARACTER
RM301	ED-381879J	DETECTOR AIQH3011HO
TS1	ES-349474	SW TACT SKHHAM004A [SERCH FWD]
TS2	ES-349474	SW TACT SKHHAM004A [SERCH REV]
TS3	ES-349474	SW TACT SKHHAM004A [SKIP FWD]
TS4	ES-349474	SW TACT SKHHAM004A [SKIP REV]
TS5	ES-349474	SW TACT SKHHAM004A [OPEN/CLOSE]
TS6	ES-349474	SW TACT SKHHAM004A [STOP]
TS7	ES-349474	SW TACT SKHHAM004A [PLAY/PAUSE]
TS8	ES-349474	SW TACT SKHHAM004A [3]
TS9	ES-349474	SW TACT SKHHAM004A [2]
TS10	ES-349474	SW TACT SKHHAM004A [1]
TS11	ES-349474	SW TACT SKHHAM004A [PROGRAM]
TS12	ES-349474	SW TACT SKHHAM004A [6]
TS13	ES-349474	SW TACT SKHHAM004A [5]
TS14	ES-349474	SW TACT SKHHAM004A [4]
TS15	ES-349474	SW TACT SKHHAM004A [CLEAR]
TS16	ES-349474	SW TACT SKHHAM004A [9]
TS17	ES-349474	SW TACT SKHHAM004A [8]
TS18	ES-349474	SW TACT SKHHAM004A [7]
TS19	ES-349474	SW TACT SKHHAM004A [0]
TS20	ES-349474	SW TACT SKHHAM004A [+10]
TS21	ES-349474	SW TACT SKHHAM004A [DISPLAY]
TS22	ES-349474	SW TACT SKHHAM004A [SIDE A/B]
TS23	ES-349474	SW TACT SKHHAM004A [TAPE]
TS24	ES-349474	SW TACT SKHHAM004A [AUTO EDIT]
TS25	ES-349474	SW TACT SKHHAM004A [PEAK LEVEL]
TS26	ES-349474	SW TACT SKHHAM004A [A-B]
TS27	ES-349474	SW TACT SKHHAM004A [REPEAT]
TS28	ES-349474	SW TACT SKHHAM004A [RANDOM PLAY]
TS29	ES-349474	SW TACT SKHHAM004A [AUTO SPACE]

7. POWER SW P.C BOARD

Ref. No.	Part No.	Description
S501	ES-390128J	SW PUSH SPUP12018A 02-02N

8. PHONE AMP P.C BOARD

Ref. No.	Part No.	Description
IC401	EI-307644	IC NJM4556D
J401	EJ-731181T	PHONE J 3P HTJ-064-03DG
TR401	ET-338410	TR 2SC2878 A,B
VR401	EV-731180T	VR 20KAX2 RK16Y12MR005-CP

9. FINAL ASSEMBLY

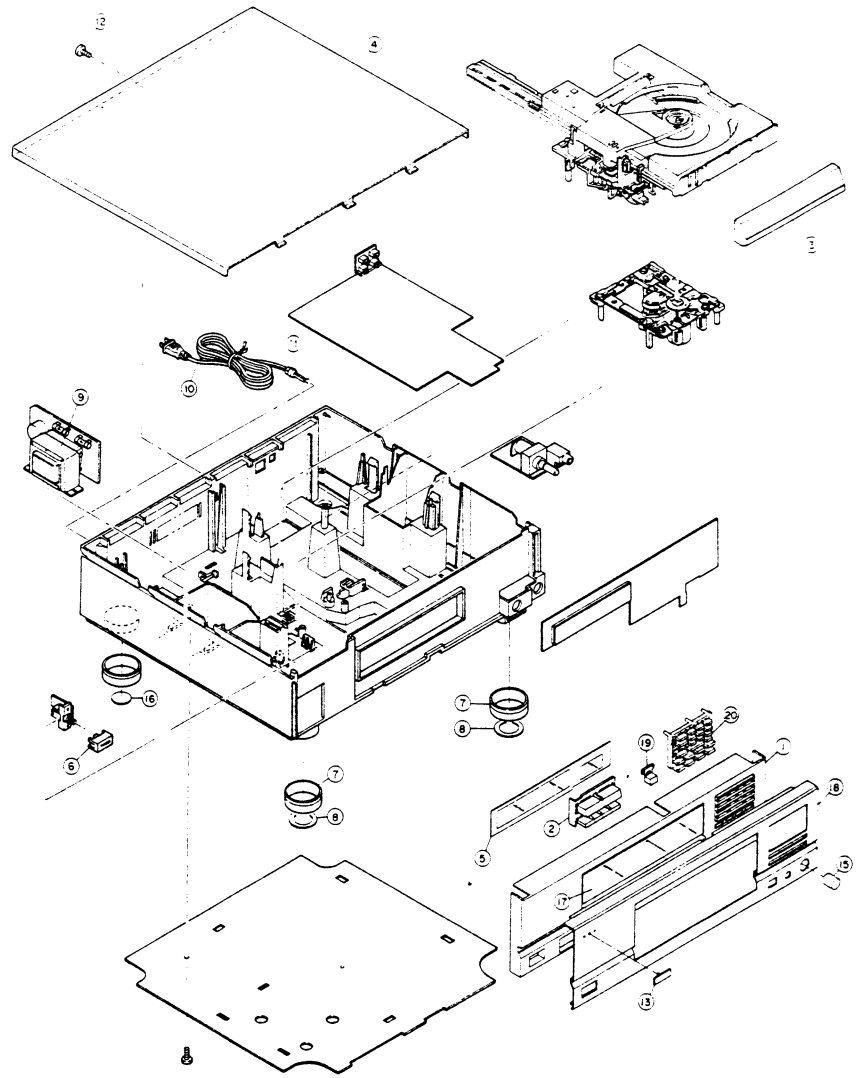
Ref. No.	Part No.	Description
1	SE-731194T	FRONT ESCUTCHEON CD-55B
2	SK-731196T	KNOB FUNCTION (BK)
3	SP-731190T	PANEL TRAY CD-55B
4	SC-731188T	TOP COVER CD-55B
5	SE-731193T	DISPLAY PLATE
6	SK-373236B	KNOB POWER-B
7	SA-731154T	RING FOOT
8	SA-731156T	SHEET FOOT (F)
9A	*BT-730709T	TRANS POW EI-48K (E,V) [E,V]
9B	*BT-730710T	TRANS POW EI-48K (B,S) [B,S]
9C	*BT-730718T	TRANS POW EI-48K (U) [U]
10A	*EW-336923	AC CORD 2C KP-419C,LTCE-2F EV [E]
10B	*EW-727063T	AC CORD BS6500 (B) [B]
10C	*EW-347898	AC CORD 2 CORES VM-0436,LCFL S [S]
10D	*EW-731025T	AC CORD UL 6.5F BLK2 SPT2 [U]
11	*EZ-730703T	STRAIN RELIEF SR-4K-6
12	ZS-365702	PLX BID30X10STL BNI
13	SM-365756C	NAME PLATE AKAI(2)
15	SK-731189T	KNOB VR (BK)
16	SA-731155T	SHEET FOOT (R)
17	SE-731186T	SUB PLATE ASSY
18	SP-731187T	FRONT PANEL CD-55B
19	SK-731195T	KNOB O/C (BK)
20	SK-731197T	KNOB PRESET (BK)

NOTE:
Parts will not be supplied if they are not listed in the parts list, even if they appear on the assembling illustrations with reference No.

10. ACCESSARY

Ref. No.	Part No.	Description
1	AX-731192T	REMOTE TRANSMITTER ASSY RC-55 (B)
2	EW-387930J	CORD R-237P P-P 2P

FINAL ASSEMBLY BLOCK



INDEX

Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.
AX-731192T	10-1	EI-37785T	1-16	ET-356336	1-37		
BA-731183T	3-1	EI-37785T	4-IC7	ET-356336	4-TR29		
BA-731184T	3-2	EI-382251J	1-22	ET-356336	4-TR30		
BM-730687T	1-1	EI-382251J	4-IC4	ET-356336	4-TR32		
BM-730687T	2-5	EI-388090J	1-21	ET-356817	1-40		
BM-730688T	1-2	EI-388090J	4-IC3	ET-356817	4-TR6		
BM-730688T	2-4	EI-390112J	1-19	ET-356817	4-TR12		
BM-730695T	1-3	EI-390112J	4-IC1	ET-356817	4-TR27		
BM-730695T	2-10	EI-390120J	1-20	ET-378524J	1-43		
BO-368598	1-4	EI-390120J	4-IC2	ET-378524J	4-TR22		
BO-368598	2-1	EI-390122J	1-23	ET-388853J	1-38		
BT-368261	4-T1	EI-390122J	4-IC5	ET-388853J	4-TR26		
BT-730709T	1-6	EI-390149J	1-29	ET-398788	1-44		
BT-730709T	9-9A	EI-390149J	4-X2	ET-398788	4-TR4		
BT-730710T	1-5	EI-391092J	1-17	ET-398788	4-TR15		
BT-730710T	9-9B	EI-391092J	4-IC9	ET-398788	4-TR18		
BT-730718T	1-7	EI-392836J	1-26	ET-398788	4-TR20		
BT-730718T	9-9C	EI-392836J	4-IC8	ET-398788	4-TR21		
EC-338411	5-C201B	EI-723861J	1-25	ET-398788	4-TR24		
EC-338411	5-C202B	EI-723861J	4-IC10	ET-398788	4-TR25		
EC-338496	5-C201A	EI-723861J	4-IC11	ET-730698T	1-46		
EC-338496	5-C202A	EJ-374191	4-OP1	ET-730698T	4-TR13		
ED-200967	1-13	EJ-390116J	4-J3	ET-730702T	1-41		
ED-200967	4-D32	EJ-731181T	6-J401	ET-730702T	4-TR10		
ED-200967	4-D34	EJ-731182T	4-J4	ET-730702T	4-TR14		
ED-305442	1-14	EM-388559J	1-31	EV-336849	4-VR1		
ED-305442	4-D14	EM-388559J	6-IN301	EV-336849	4-VR2		
ED-307572	1-8	ES-349464	1-35	EV-336849	4-VR3		
ED-307572	4-D15	ES-349464	5-VS201	EV-336849	4-VR4		
ED-307572	4-D17	ES-349474	1-36	EV-341232	4-VR5		
ED-307572	4-D18	ES-349474	6-TS1	EV-731180T	1-47		
ED-307572	4-D19	ES-349474	6-TS2	EV-731180T	8-VR401		
ED-307572	4-D20	ES-349474	6-TS3	EW-336923	9-10A		
ED-307572	4-D21	ES-349474	6-TS4	EW-347898	9-10C		
ED-307572	4-D24	ES-349474	6-TS5	EW-387930J	10-2		
ED-307572	4-D25	ES-349474	6-TS6	EW-727063T	9-10B		
ED-307572	4-D35	ES-349474	6-TS7	EW-731025T	9-10D		
ED-307572	6-D301	ES-349474	6-TS8	EZ-730703T	9-11		
ED-307572	6-D302	ES-349474	6-TS9	MA-731007T	2-2		
ED-307572	6-D303	ES-349474	6-TS10	MA-731008T	2-9		
ED-307572	6-D304	ES-349474	6-TS11	MB-730686T	2-8		
ED-307572	6-D305	ES-349474	6-TS12	MB-730693T	1-48		
ED-307572	6-D306	ES-349474	6-TS13	MB-730693T	2-11		
ED-307572	6-D307	ES-349474	6-TS14	ML-730678T	2-18		
ED-307572	6-D308	ES-349474	6-TS15	ML-730679T	2-19		
ED-324458	1-12	ES-349474	6-TS16	ML-730680T	2-20		
ED-324458	4-D12	ES-349474	6-TS17	MZ-730685T	2-3		
ED-324458	4-D26	ES-349474	6-TS18	MZ-730691T	2-12		
ED-324458	4-D30	ES-349474	6-TS19	MZ-730692T	2-13		
ED-324458	4-D33	ES-349474	6-TS20	MZ-731011T	2-6		
ED-346627	1-10	ES-349474	6-TS21	MZ-731012T	2-23		
ED-346627	4-D11	ES-349474	6-TS22	MZ-731013T	2-26		
ED-381879J	1-15	ES-349474	6-TS23	MZ-731014T	2-25		
ED-381879J	6-RM301	ES-349474	6-TS24	MZ-731015T	2-24		
ED-389840J	1-9	ES-349474	6-TS25	MZ-731016T	2-17		
ED-389840J	4-D1	ES-349474	6-TS26	MZ-731018T	2-22		
ED-389840J	4-D2	ES-349474	6-TS27	MZ-731019T	2-21		
ED-389840J	4-D3	ES-349474	6-TS28	SA-731154T	9-7		
ED-389840J	4-D4	ES-349474	6-TS29	SA-731155T	9-16		
ED-389840J	4-D5	ES-390127J	1-33	SA-731156T	9-8		
ED-389840J	4-D6	ES-390127J	2-7	SC-731017T	2-16		
ED-389840J	4-D7	ES-390128J	1-34	SC-731188T	9-4		
ED-389840J	4-D8	ES-390128J	1-S501	SE-731186T	9-17		
ED-389840J	4-D9	ES-730694T	1-32	SE-731193T	9-5		
ED-389840J	4-D10	ES-730694T	2-14	SE-731194T	9-1		
ED-389840J	4-D28	ET-336735	4-TR1	SK-373236B	9-6		
ED-708301	1-11	ET-336735	4-TR5	SK-731189T	9-15		
ED-708301	4-D31	ET-336735	4-TR6	SK-731195T	9-19		
EF-358641	1-16	ET-336735	4-TR17	SK-731196T	9-2		
EF-358641	5-F101	ET-336735	4-TR19	SK-731197T	9-20		
EF-358641	5-F102	ET-336735	4-TR28	SM-365756C	9-13		
EH-730701T	5-LF201	ET-336735	4-TR31	SP-731187T	9-18		
EI-307644	1-24	ET-336810	1-42	SP-731190T	9-3		
EI-307644	8-IC401	ET-336810	8-TR401	ZS-365702	9-12		
EI-360039J1	1-27	ET-352726	1-39				
EI-360039J1	4-IC6	ET-352726	4-TR23				
EI-371572	1-28	ET-354083	1-45				
EI-371572	4-IC12	ET-354083	4-TR7				
EI-374176	1-30	ET-354083	4-TR9				
EI-374176	4-X1	ET-354083	4-TR11				

ABBREVIATIONS (COMPACT DISC)

ABBREVIATION	EXPLANATION	ABBREVIATION	EXPLANATION
A-D	Analog to Digital (Convertor)	Mb	Mega Bits
ADC	Analog to Digital (Convertor)	MDA	Motor Drive Amplifier
BCD	Binary Code Decimal	MFM	Modified Frequency Modulation
BPI	Bits per Inch	MM	Mono-stable Multivibrator
CD	Compact Disc	M²FM	Modified Modified Frequency Modulation
CIRC	Cross Interleaving & Reed Solomon Coding	MOD2	Modulo 2 (Addition)
CLV	Constant Linear Velocity	MP	Microprocessor
CP	Clock Pulses	MSB	Most Significant Bit
CRCC	Cyclic Redundancy Check Codes	NA	Numerical Aperture
D Level	Decision Level	NRZ	Non Return to Zero
D-A	Digital to Analog (Convertor)	NRZ-I	Non Return to Zero Inverted
DAC	Digital to Analog (Convertor)	P	Parity Data
DAD	Digital Audio Disc	PAM	Pulse Amplitude Modulation
DEM	Dynamic Element Matching	PCM	Pulse Code Modulation
DPD	Differential Phase Detection	PD	Phase Detector
DSV	Digital Sum Value	PE	Phase Encode
EFM	Eight to fourteen Modulation	PLL	Phase Locked Loop
EX-OR	EXclusive OR	PNM	Pulse Number Modulation
FCI	Flux Changes per Inch	PPM	Pulse Phase Modulation
FIR	Finite Impulse Response	PWM	Pulse Width Modulation
FP	Front Pulse	Q	Parity Data
FPG	Front Pulse Gate	R,R_1,R_2, etc.	Data for Right Channel
f	Frequency of Sampling	RAM	Random Access Memory
GF	Galois Field	RPG	Rear Pulse Gate
H&V (Parity)	Horizontal & Vertical	SCOOP	Self Coupled Optical Pick-up
IIR	Infinite Impulse Response	S&H	Sample & Hold
kb	Kilo Bits	S/N	Signal to Noise Ratio
L,L_1,L_2, etc.	Data for Left Channel	SSG	Standard Signal Generator
LPF	Low Pass Filter	SYS CON	SYStem CONtrol
LSB	Least Significant Bit		

AKAI

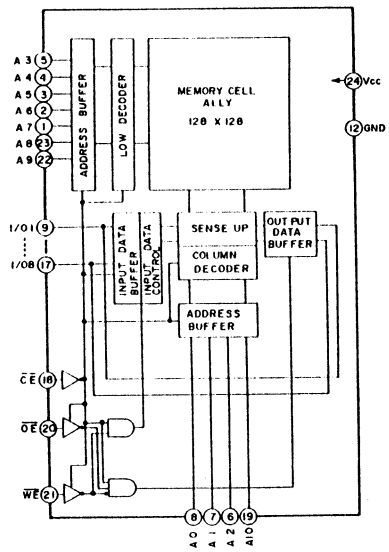
MODEL CD-55

SCHEMATIC DIAGRAMS AND PC BOARDS

TABLE OF CONTENTS

1. BLOCK DIAGRAM 3
2. SCHEMATIC DIAGRAM 4
3. MAIN AND OTHER PC BOARDS 5
4. INFORMATION OF ICs 6

LC3517BS-15 (16K BIT S-RAM)



PD0050 (DIGITAL FILTER)

Pin No.	Symbol	I/O	Description
1	XIN	I	Crystal OSC input or external OSC input
2	XOUT	O	Crystal OSC output
3	MODE 1	I	Master clock (XIN) and CKOUT Select *
4	CKOUT	O	External clock output *
5	LRCK	I	LR clock input
6	DATA	I	Serial data input
7	BCLK	I	Bit clock for input data
8	VSS		GND
9	MODE 2	I	"H" level:output of 18 bit data "L" level:output of 16 bit data
10	SHOUT	O	Sample and hold plus output
11	LDOUT	O	L ch data output
12	RDOUT	O	R ch data output
13	MODE 3	I	Master clock (XIN) and CKOUT select *
14	WOUT	O	WORD clock output
15	BOUT	O	Bit clock output for LDOUT,RDOUT
16	VDD		+5V power supply

* Master clock frequency can be selected by MODE 1 and MODE 3 condition as shown below.

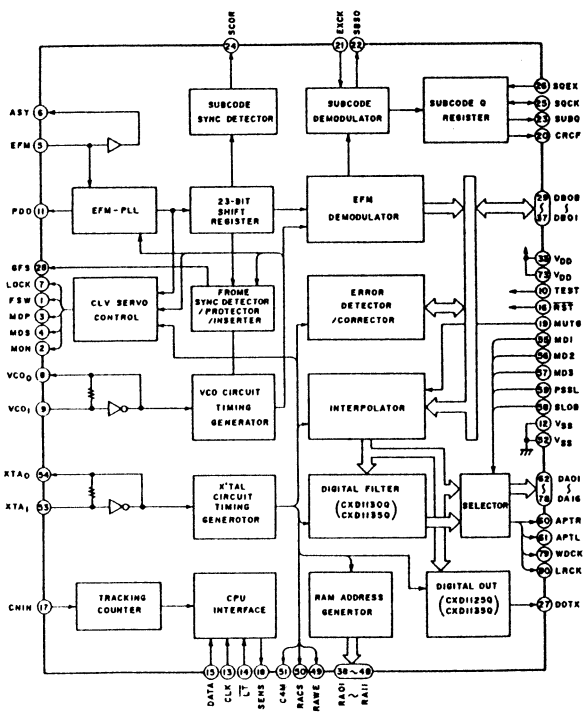
MODE 1	MODE 3	MASTER CLOCK (XIN)	CKOUT
H	H	384fs	384fs
L	H	192fs	192fs
H	L	392fs	196fs
L	L	196fs	196fs

M50957-188SP (SYSTEM CONTROL MI-COM)

Pin No.	Symbol	I/O	Description
1	Vcc	I	+5V power supply
2	SUBQ	I	Sub code-Q data input
3	SQCK	O	Reading clock output of sub code-Q data
4	LSW	O	Laser diode ON/OFF control output
5	EMP	O	De-emphasis ON/OFF control output
6	FOK	I	Focus lock detection input H:Focus lock
7	GFS	I	PLL(Frame sync) condition detect signal input("H": PLL lock, "L": PLL unlock)
8	MO1	O	Motor logic control output for LOADING and OUTPUT VOLUME motors (Refer to pin 22 and 23)
9	SLSW	I	Innermost posistion ON/OFF detection input of SLED motor
10	CRCF	I	Result input of CRC(Error) check from LSI(CXD1135)
11	MUTG	O	Muting control output for LSI(CXD1135)
12	PSW	I	Input of power ON/OFF detect signal
13	OPSW	I	Input of disc tray open detect signal
14	CLSW	I	Input of disc tray close detect signal
15	XRST	O	Reset signal output of data transfer to LSI(CXD1135)
16	XLT	O	Latch signal output of data transfer to LSI(CXD1135)
17	CLK	O	Clock signal output of data transfer to LSI(CXD1135)
18	DATA	O	Command data output to LSI(CXD1135) 8bit serial data
19	MUTE 2	O	Mute control output during peak level search
20	AIN	I	Rectified audio signal input for peak level detection
21	SENS	I	Auto sequence end detection input
22	MO2	O	Motor control output for LOADING and OUTPUT VOLUME motors
23	MO3	O	
24	REMO	I	Remote control receive searial data input
25	SCOR	I	Input of sub cord sync
26	CNVss		GND
27	RST	I	Reset signal input
28	XIN	I	X'tal connection terminal input
29	XOUT	O	X'tal connection terminal output
30	XCIN	I	Not used
31	XCOUT	O	Not used
32	Vss	O	GND
33			Notused
34	KS4	I	Key scan input
35	KS3	I	
36	KS2	I	
37	KS1	I	
38	Vp	I	-30 V pul down voltage of FLD
39			Not used
40	DOM		Not used
41	S16	O	Segment data output for FL display
42	S15	O	
43	S14	O	
44	S13	O	
45	S12	O	
46	S11	O	
47	S10	O	
48	S09	O	
49	S08	O	
50	S07	O	
51	S06	O	
52	S05	O	
53	S04	O	
54	S03	O	
55	S02	O	
56	S01	O	
57	8G	O	Digit output for key scan FLD not used
58	7G	O	
59	1G	O	Digit output for FL display and key scan
60	2G	O	
61	3G	O	
62	4G	O	
63	5G	O	
64	6G	O	

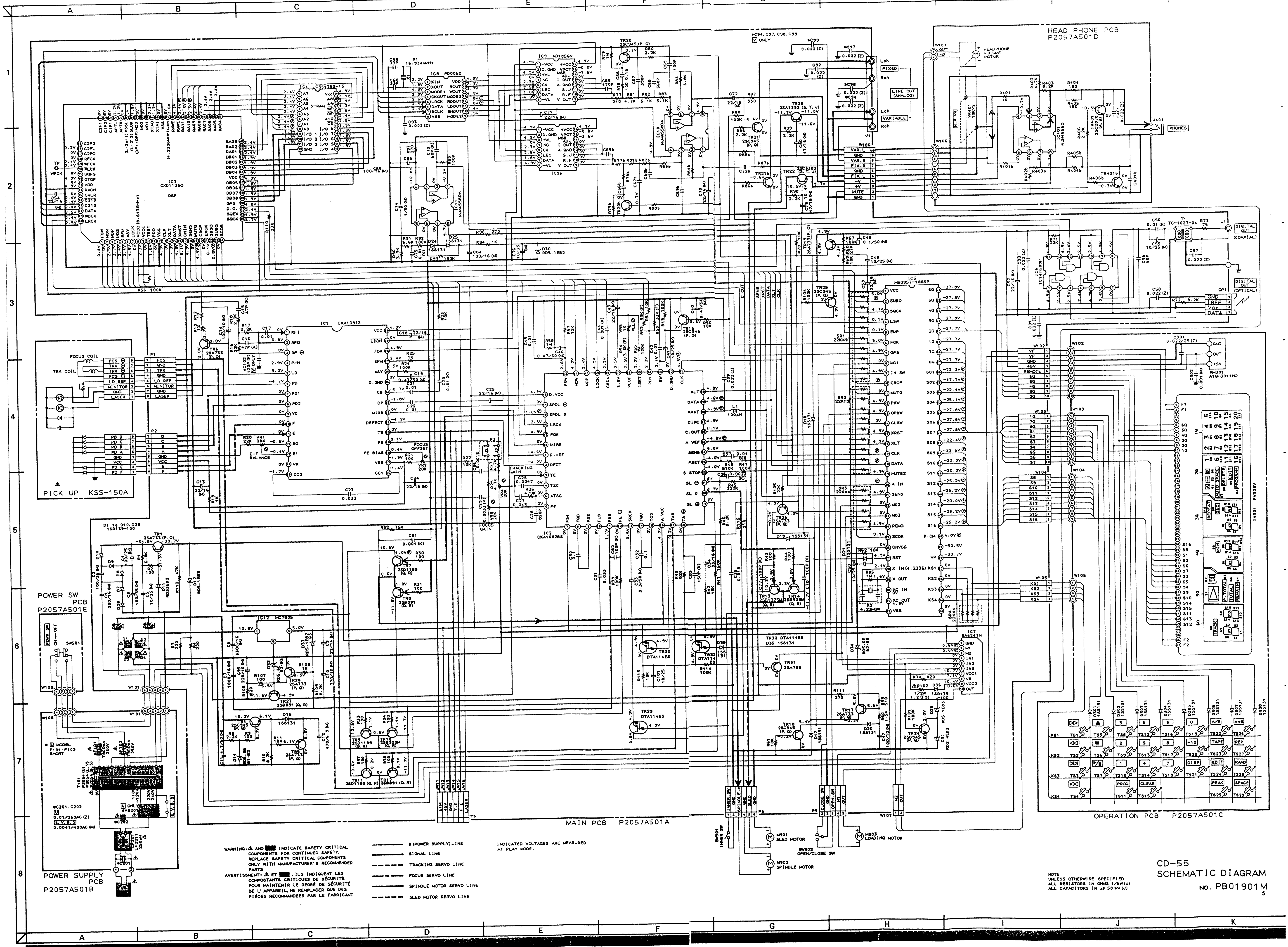
	STOP	TRAY OPEN	TRAY CLOSE	VOLUME UP	VOLUME DOWN
MO1	L	H	H	L	L
MO2	L	L	L	H	H
MO3	L	H	L	L	H

CXD1135Q (DIGITAL SIGNALPROCCESOR)



CXD1135Q

No.	Symbol	I/O	Description
1	FSW	O	Spindle motor filter switching control
2	MON	O	Spindle motor ON/OFF control
3	MPD	O	Spindle motor speed and phase control
4	MDS	O	Spindle motor speed control
5	EFM	I	EFM signal input
6	ASY	O	EFM signal slice level control
7	LOCK	O	Slide motor over reach guard signal output
8	VCOO	O	VCO output (*=8.6436 MHz
9	VCOI	I	VCO input
10	TEST	I	OV (GND)
11	PDO	O	Phase comp output
12	VSS	—	GND (OV)
13	CLK	I	Clock signal from CPU
14	$\overline{LT}$	I	Lutch signal from CPU
15	DATA	I	Serial data from CPU
16	$\overline{RST}$	I	RESET input "L" reset
17	CNIN	I	Tracking pulse input (5V)
18	SENS	O	Output of CPU interface
19	MUTG	I	Mute control signal input
20	CRCF	O	CRC check output of the subcode Q "L" detect error
21	EXCK	I	NOT USE
22	SBSO	O	NOT USE
23	SUBQ	O	Subcode Q output
24	SCOR	O	Subcode sync detection output
25	SQCK	I/O	Clock signal for subcode Q
26	SQEX	I	Select input of CQCK (+5V)
27	DOTX	O	Digital output
28	GFS	O	"H" frame sync lock "L" frame sync unlock
29	DB08	I/O	Data 8 (MSB) Data Bus line for the EXT.RAM (LC3517AS-15)
30	DB07	I/O	Data 7 Data bus line for the EXT.RAM (LC3517AS-15)
31	DB06	I/O	Data 6 Data Bus line for the EXT.RAM (LC3517AS-15)
32	DB05	I/O	Data 5 Data Bus line for the EXT.RAM (LC3517AS-15)
33	VDD	—	+5V
34	DB04	I/O	Data 4 Data Bus line for the EXT.RAM (LC3517AS-15)
35	DB03	I/O	Data 3 Data Bus line for the EXT.RAM (LC3517AS-15)
36	DB02	I/O	Data 2 Data Bus line for the EXT.RAM (LC3517AS-15)
37	DB01	I/O	Data 1 (LSB) Data Bus line for the EXT.RAM (LC3517AS-15)
38	RA01	O	ADDR01 (LSB) Address signal output for the EXT. RAM (LC3517AS-15)
39	RA02	O	ADDR02 Address signal output for the EXT. RAM (LC3517AS-15)
40	RA03	O	ADDR03 Address signal output for the EXT. RAM (LC3517AS-15)



WARNING: ⚠ AND [shaded] INDICATE SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠ ET [shaded], ILS INDIQUENT LES COMPOSTANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

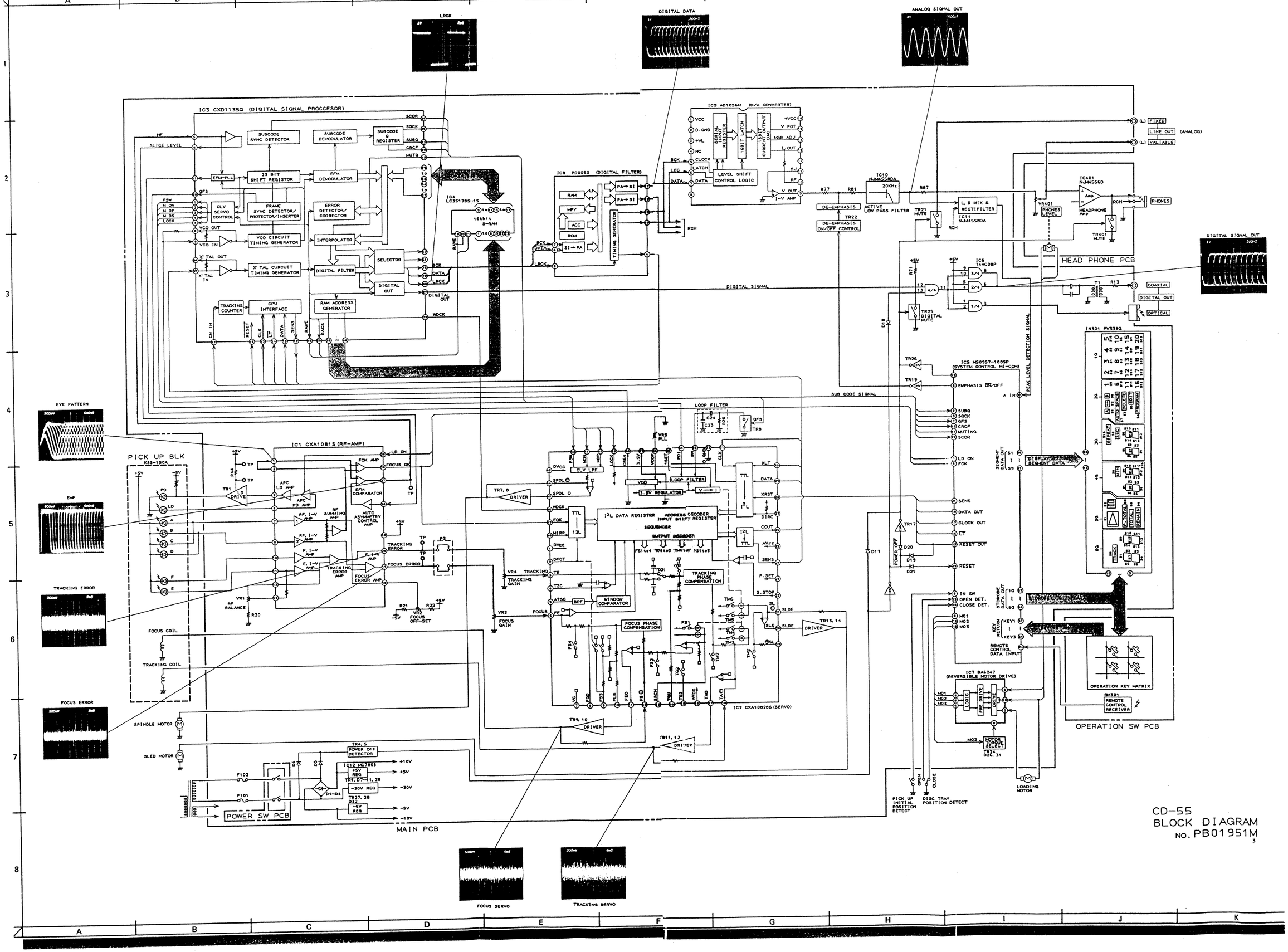
B (POWER SUPPLY) LINE
SIGNAL LINE
TRACKING SERVO LINE
FOCUS SERVO LINE
SPINDLE MOTOR SERVO LINE
SLED MOTOR SERVO LINE

INDICATED VOLTAGES ARE MEASURED AT PLAY MODE.

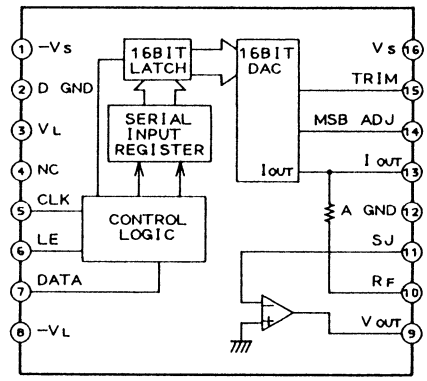
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W (J)
ALL CAPACITORS IN µF 50 WV (J)

CD-55 SCHEMATIC DIAGRAM

NO. PB01901M

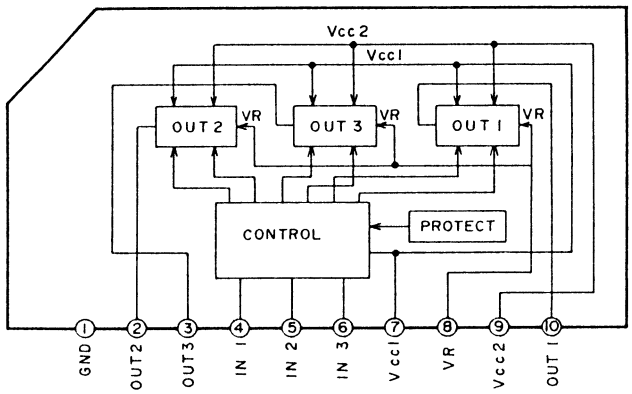

LRCK
DIGITAL DATA
ANALOG SIGNAL OUT
IC3 CXD1135Q (DIGITAL SIGNAL PROCCESOR)
SUBCODE SYNC DETECTOR
SUBCODE DEMODULATOR
SUBCODE Q REGISTER
23 BIT SHIFT REGISTOR
EFM DEMODULATOR
FRAME SYNC DETECTOR/ PROTECTOR/INSERTER
ERROR DETECTOR/ CORRECTOR
CLV SERVO CONTROL
VCO CIRCUIT TIMING GENERATOR
INTERPOLATOR
X'TAL CURCUIT TIMING GENERATOR
DIGITAL FILTER
SELECTOR
DIGITAL OUT
TRACKING COUNTER
CPU INTERFACE
RAM ADDRESS GENERATOR
IC4 LC3517BS-15
16kbit S-RAM
IC8 PD0050 (DIGITAL FILTER)
IC9 AD1856N (D/A CONVERTER)
SERIAL INPUT REGISTER
16BIT LATCH
18BIT CURRENT OUTPUT DAC
LEVEL SHIFT CONTROL LOGIC
I-V AMP
IC10 NJM5580A
ACTIVE LOW PASS FILTER
DE-EMPHASIS
DE-EMPHASIS ON/OFF CONTROL
L, R MIX & RECTIFILTER
IC11 NJM5580A
TR21 MUTE
TR22
IC401 NJM5560
VR401 PHONES LEVEL
HEADPHONE AMP
TR401 MUTE
PHONES
(L) FIXED
(L) VALIABLE
LINE OUT (ANALOG)
HEAD PHONE PCB
DIGITAL SIGNAL OUT
IC6 74HC08P
TR25 DIGITAL MUTE
T1
R13
COAXIAL
DIGITAL OUT
OPTICAL
DIGITAL SIGNAL
PEAK LEVEL DETECTION SIGNAL
IN301 FV338Q
IC5 MS0957-188SP (SYSTEM CONTROL MI-COM)
EMPHASIS ON/OFF
A IN
SUB CODE SIGNAL
SUBQ
SOCK
GFS
CRCF
MUTING
SCOR
LD ON
FOK
SENS
DATA OUT
CLOCK OUT
LT
RESET OUT
RESET
IN SW
OPEN DET.
CLOSE DET.
M01
M02
M03
SEGMENT DATA OUT
DISPLAY SEGMENT DATA
STROBE DATA OUT
KEY RETURN
REMOTE CONTROL DATA INPUT
OPERATION KEY MATRIX
RM301 REMOTE CONTROL RECEIVER
OPERATION SW PCB
IC7 BA6247 (REVERSIBLE MOTOR DRIVE)
MOTOR DRIVE SELECT
TR24 D26, 31
LOADING MOTOR
PICK UP INITIAL POSITION DETECT
DISC TRAY POSITION DETECT
OPEN
CLOSE
EYE PATTERN
EMF
TRACKING ERROR
FOCUS ERROR
IC1 CXA1081S (RF-AMP)
PICK UP BLK
KSS-150A
LD DRIVE
APC LD AMP
APC PD AMP
FOK AMP
FOCUS OK
EFM COMPARATOR
AUTO ASYMMETRY CONTROL AMP
RF BLANKING AMP
RF, I-V AMP
F, I-V AMP
E, I-V AMP
TRACKING ERROR AMP
FOCUS ERROR AMP
RF BALANCE
VR2 FOCUS OFF-SET
FOCUS COIL
TRACKING COIL
SPINDLE MOTOR
SLED MOTOR
LOOP FILTER
CLV LPF
VCO
3.5V REGULATOR
TR7, 8 DRIVER
TR9, 10 DRIVER
TR11, 12 DRIVER
TR13, 14 DRIVER
i2L DATA REGISTER
ADDRESS DECODER
INPUT SHIFT REGISTER
SEQUENCER
OUTPUT DECODER
WINDOW COMPARATOR
TRACKING PHASE COMPENSATION
FOCUS PHASE COMPENSATION
VR4 TRACKING GAIN
VR3 FOCUS GAIN
IC2 CXA1082BS (SERVO)
TR4, 5 POWER OFF DETECTOR
IC12 MC7805
+5V REG
-30V REG
-5V REG
+10V
+5V
-30V
-5V
-10V
POWER SW PCB
MAIN PCB
FOCUS SERVO
TRACKING SERVO
CD-55
BLOCK DIAGRAM
NO. PB01951M
3

AD1856N (D/A CONVERTER)



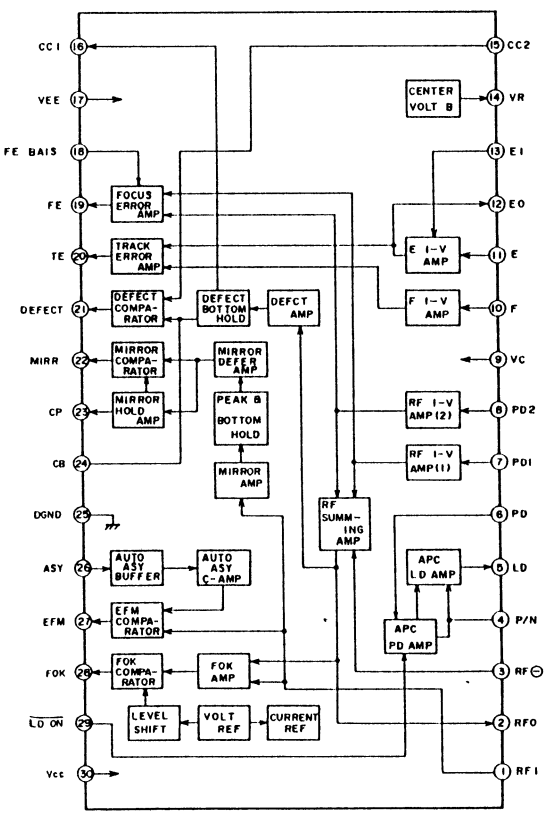
Pin No.	Symbol	Description
1	-Vs	Analog power supply
2	DGND	Digital GND
3	V_L	Logic power supply
4	NC	No conection
5	CLK	Bit clock input
6	LE	Latch enable input
7	DATA	Serial data input
8	-V_L	Logic power supply
9	V_{OUT}	Voltage output
10	R_F	Feed back resistor terminal
11	SJ	Summing junction
12	AGND	Analog GND
13	I_{OUT}	Current output
14	MSB ADJ	MSB adjustment terminal
15	TRIM	MSB trimpot terminal
16	Vs	Analog power supply

BA6247N (REVERSIBLE MOTOR DRIVE)

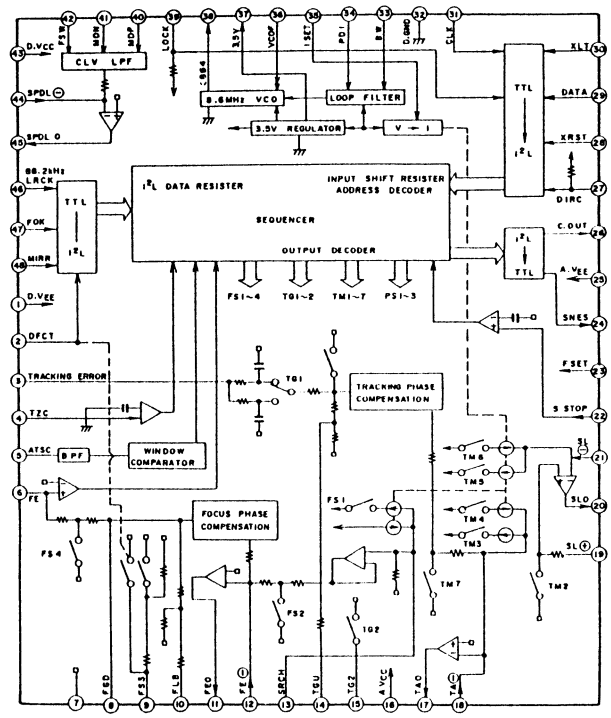


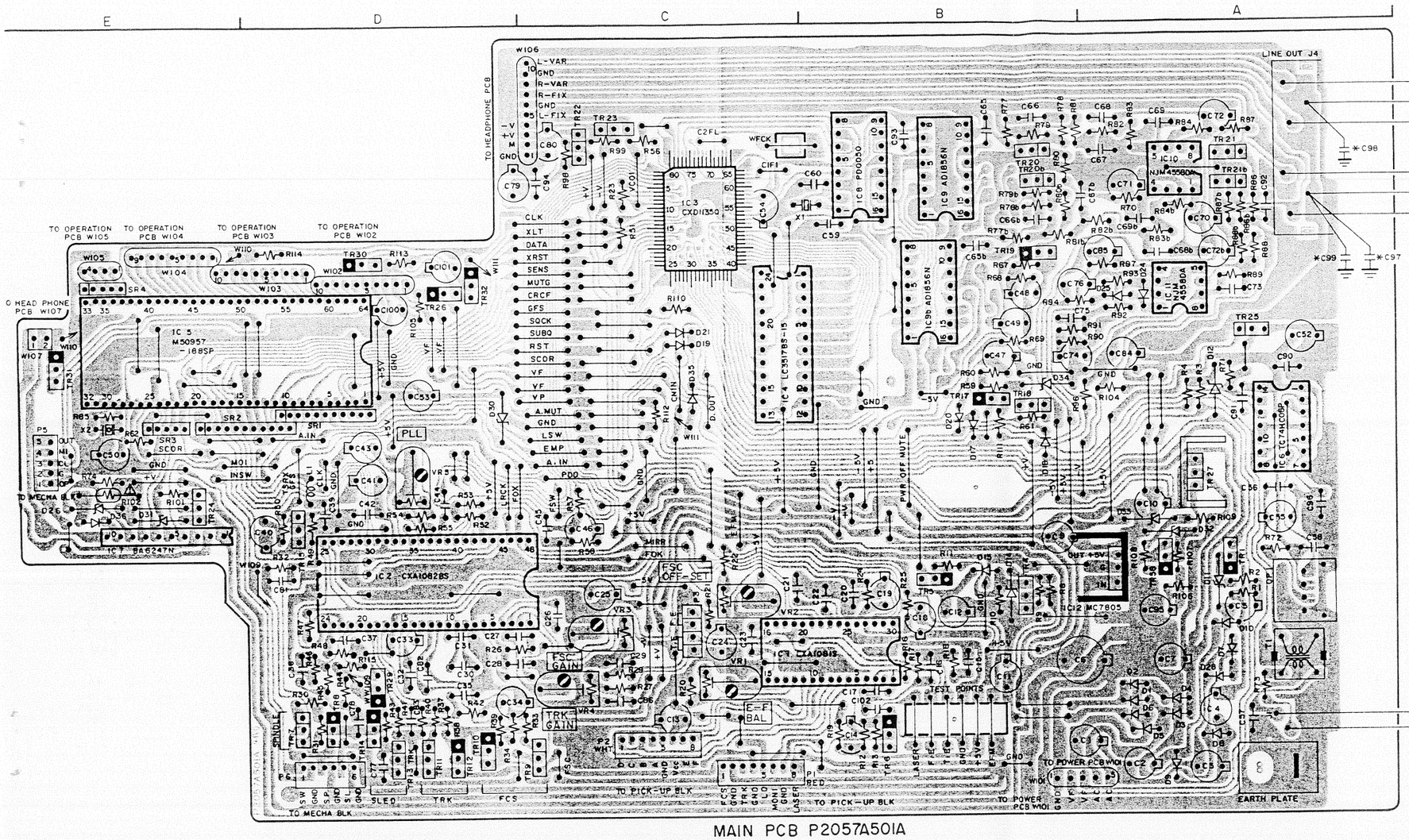
IN PUT			OUT PUT		
IN1	IN2	IN3	OUT1	OUT2	OUT3
L	L	L / H	L	L	L
H	L	L	H	L	OPEN
H	L	H	L	H	OPEN
L	H	L	H	OPEN	L
L	H	H	L	OPEN	H
H	H	L / H	L	L	L

CXA1081S (RF-AMP)



CXA1082BS (SERVO CONTROL)





MAIN PCB P2057A501A

LOCATION OF COMPONENTS

ICS

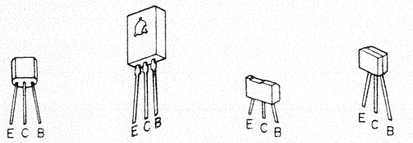
IC1.....B,C4
IC2.....D3
IC3.....C1,2
IC4.....C2
IC5.....D,E2
IC6.....A1,2
IC7.....E3
IC8.....B1
IC9.....B1
IC9b.....B2
IC10.....A1
IC11.....A2
IC12.....A3

CONNECTORS & WIRES

P1.....C4
P2.....C4
P3.....C4
P5.....E3
P6.....D4
J1.....A4
J4.....A1
W101.....A,B4
W102.....D2
W103.....D,E2
W104.....E2
W105.....E2
W106.....C1
W107.....E2

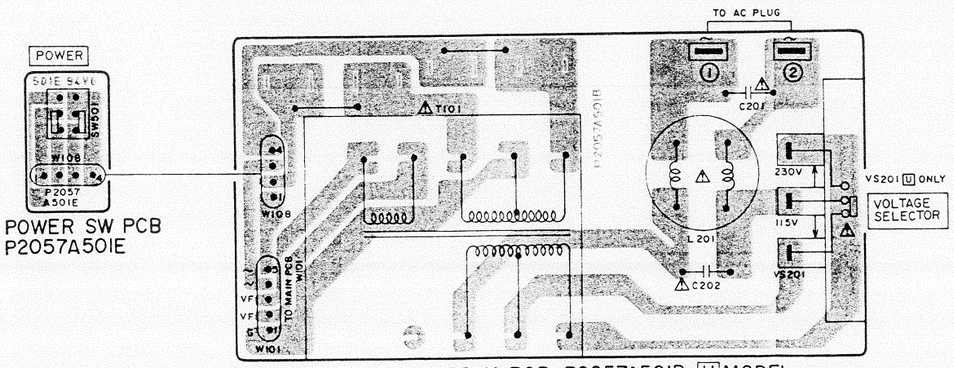
TRANSISTORS

TR1.....A3
TR4.....B3
TR5.....B3
TR6.....B4
TR7.....D4
TR8.....D4
TR9.....C4
TR10.....D4
TR11.....D4
TR12.....D4
TR13.....D4
TR14.....D4
TR15.....D3
TR17.....B2
TR18.....B2
TR19.....B2
TR20.....B1
TR20b.....B1
TR21.....A1
TR21b.....A1
TR22.....C1
TR23.....C1
TR24.....E3
TR25.....A2
TR26.....D2
TR27.....A3
TR28.....A3
TR29.....D4
TR30.....D2
TR31.....E2
TR32.....D2

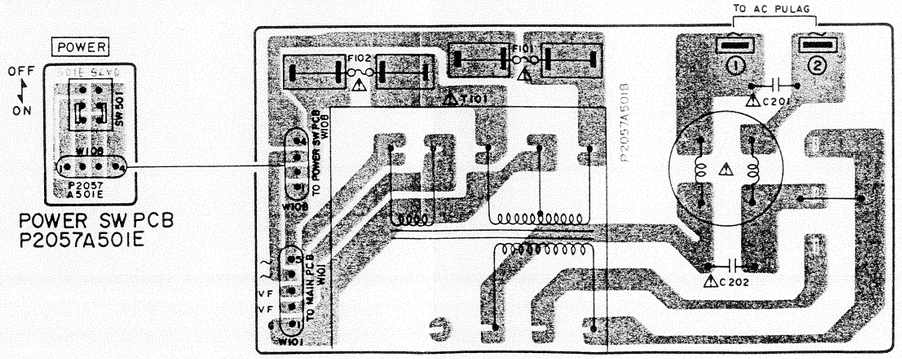


B = NPN TRANSISTOR

B = PNP TRANSISTOR



POWER SUPPLY PCB P2057A501B U MODEL



POWER SUPPLY PCB P2057A501B EXCEPT U MODEL

WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

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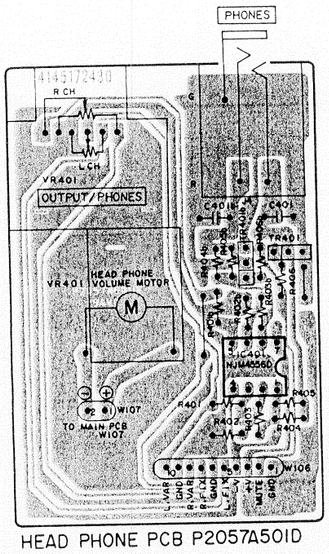
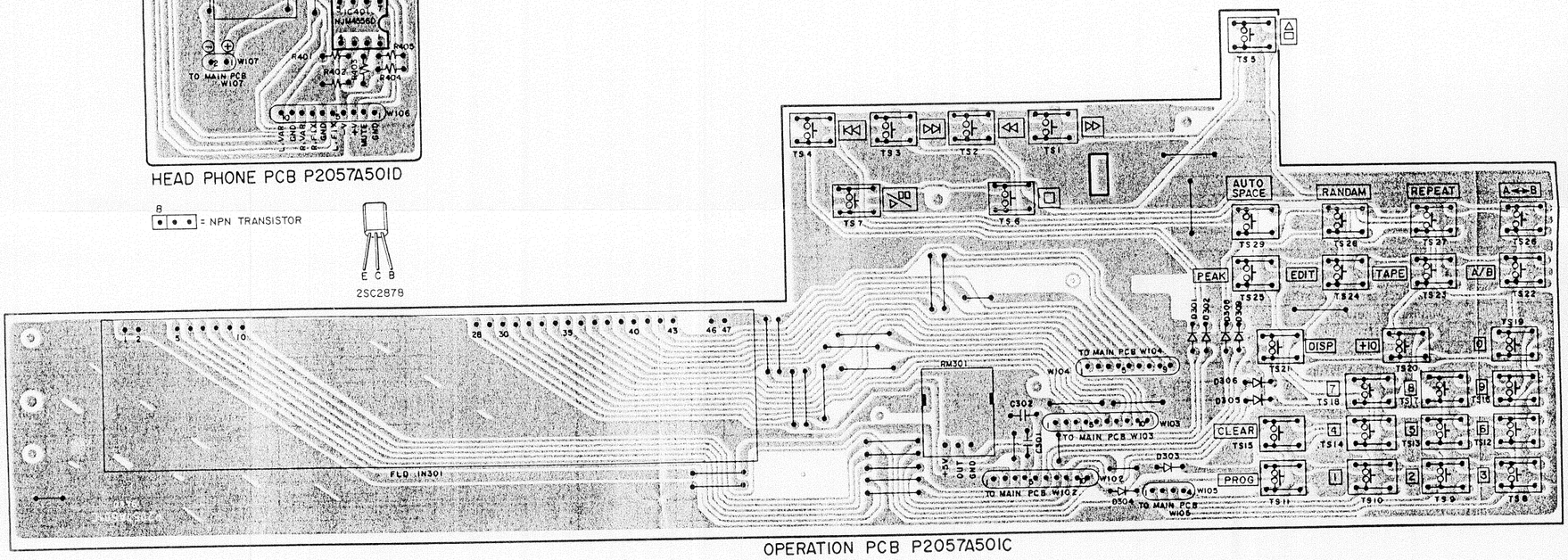


HEAD PHONE PCB P2057A501D



OPERATION PCB P2057A501C